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Roth Watter
 SOIL CONSERVATION LITERATURE :-

SELECTED CURRENT REFERENCES

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SEPTEMBER 1936

PERIODICAL ARTICLES

Contour Tillage

Montgomery, G.A. Farming on the level. Capper's Farmer 47(9):14. September 1936.

Tells of success with contour cultivation practiced on farm of D.J.Rundell, Norton county, Kansas, since 1906. States that "a visitor to the Rundell farm borrowed a posthole digger and went out to determine how effective contouring has been in saving top soil. On one of the steepest slopes he dug down about 10 inches. The top 9 inches was rich black loam. Leaving the Rundell farm, he drove about the neighborhood. On many farms the loam top soil was all gone from whole fields, and only the yellowish subsoil was left."

Robertson, C.L. and Husband, A.D. Results from Glenara Soil Conservation Experiment Station. Rhodesia Agr.Jour. 33(3): 162-172. March 1936.

Reports results of experiments to determine relative efficiencies of the two types of ridges in reducing erosion and flood run-off at an experiment station near Salisbury, Rhodesia, and also to supply data as to the peak rate of discharge during rainstorms of particularly heavy intensity and thus afford an indication as to the height of ridge necessary to ensure protection under the severest of conditions.

Cover

Adams, R.R. Sericea: the champion drought-defier. Southern Planter 97(8):7. illus. August 1936.

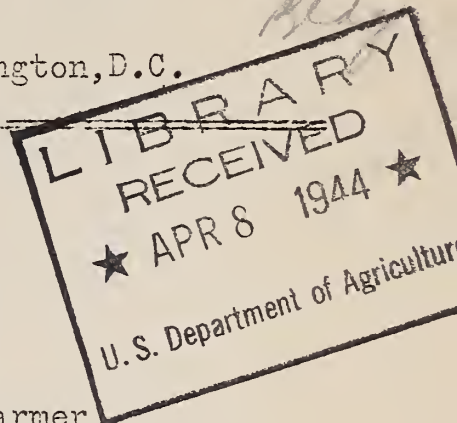
Author describes experiences in growing Sericea for hay crop and reports success with this plant in Virginia in stopping soil washing and restoring nitrogen to the soil. States that "Sericea, like alfalfa, comes up from the crown year after year but unlike alfalfa, it will in a few years kill out the weeds and crab and wire grass...and, unlike alfalfa, Sericea will grow on acid soil."

Chen, F.S. Investigations of cover plants in the forest in Ran-chi Hsien. Jour. Agr. Assoc. China. 149: 31-50. June 1936.

In Chinese.

Hosley, N.W. Food and cover for wildlife. Many woody plants provide both these necessities on a more permanent basis. Amer. Wildlife 25(3):36, 44-46. illus. May-June 1936.

(continued on page 2)



Cover (cont'd)Hosley, N.W.(cont'd)

Discusses some twenty-five food-bearing woody plants as adapted to cover patches for American game species. States that "many of the woody plants produce a large volume of food material per unit of ground area; they are especially valuable in erosion control; they require little care and... persist for years. Many woody species have a high ornamental value and the conifers are...the best group of cover plants."

Tables show chemical composition of some fruits and nuts with corn and grasshoppers for comparison; use of 45 or more important northeastern woody plants by wildlife.

Bibliography at close of article.

Paper presented at the North American Wildlife Conference, 1936.

Jones, Earl. Liming the soils of Ohio. Ohio Farmer 178(3): 8. August 1, 1936.

Discusses soil liming in preparation for crops of clover and alfalfa. States that "our present soil conservation and erosion control programs are based upon the fundamental principle of keeping a good cover on the land when it is in pasture or hay. We cannot have good hay fields unless we can grow clover or alfalfa (alfalfa is preferable), or good permanent pasture unless we can grow white clover and bluegrass. The lime content of the soil is the important factor that determines whether we can grow satisfactory clover and alfalfa."

Turner, L.M. Ecological studies in the lower Illinois river valley. Bot. Gaz. 97(4):689-727. June 1936.

Describes soil types and herbaceous and woody species of plants of the lower Illinois river valley. Herb, shrub, vine and tree species are listed, and tables show quantitative evaluation of trees and shrubs of greatest frequency in the upland forest, in talus slope-floodplain transition forest; quantitative evaluation of trees of greatest frequency in the floodplain forest and on larger islands. States that "the talus slope-floodplain transition forest lies above the zone of destructive floods. Cultivation and grazing have brought about the destruction of many of the native species...The lakes and sloughs have been greatly reduced in number and size by drainage...In general the number of plant species is much smaller than in many lakes elsewhere, possibly because of the annual destruction of the plants by floods."

Literature cited at close of article.

Cultivation Implements

Culpin, Claude. Studies on the relation between cultivation implements, soil structure and the crop. I. Some preliminary observations on the measurement of soil structure, with a description of an instrument for the measurement of soil resistance. Jour. Agr. Sci. 26(1):22-35. January 1936.

(Continued on page 3)

Cultivation Implements (cont'd)Culpin, Claude (cont'd)

Summary: "The need for physical measurements of soil structure to assist studies of the relation between cultivation implements and plant growth is pressing.

"The nature and measurement of soil compactness and consolidation are briefly discussed. Measurements of soil resistance give an indication of consolidation rather than of compactness.

"An instrument used for the measurement of soil resistance is described, with some notes upon its performance.

"A brief outline is given of studies on soil structure in relation to gyrotilling. It is shown that the soil-resistance apparatus described gives results similar to those obtained by the use of the drawbar dynamometer in ploughing. A relation between soil resistance and plant growth is demonstrated."

Culpin, Claude. Studies on the relation between cultivation implements, soil structure and the crop. II. The effects of the Fowler "gyrotiller" on the soil. Jour. Agr.Sci. 26(1): 45-58. plates. January 1936.

Summary: "General account is given of four experiments in which the action on the soil of the Fowler "gyrotiller" has been compared with that of the traditional cultivation implements. The gyrotiller has produced well marked changes in the soil on both heavy and light land. These changes have been demonstrated and recorded by tests of the compactness, the resistance, the degree of comminution and the permeability of the soil..."

McComb, A.L. and Steavenson, H.A. Some new nursery equipment. Jour. Forestry 34(7): 698-701. July 1936.

Describes equipment consisting of two tractors, a seeder, a cultivator and a digger used at the Soil Conservation Service Nursery, Ames, Iowa.

Erosion

Chase, Stuart. When the crop lands go. Harper's Mag. vol.173, pp.225-233. August 1936.

Discusses soil erosion and soil depletion types.

Daniel, A.D. and Langham, W.H. The effect of wind erosion and cultivation on the total nitrogen and organic matter content of soils in the southern high plains. Jour. Amer. Soc. Agron. 28(8): 587-596. illus. August 1936.

Presents experimental procedure and results of experiments to determine change in total nitrogen and organic matter content of soils as affected by wind erosion and cropping. States that "the drift had an average of 24.5% less organic matter and 28.0% less nitrogen than the virgin soil. The data indicate that each time a soil is shifted more plant nutrients are removed, and that after being moved a large number of times, the dunes from soils that are dispersed by the wind finally became

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Erosion (cont'd)

Daniel, A.D. (cont'd)

sand, regardless of the original texture...Since the total nitrogen and organic matter in the soil profile decreases rapidly with depth, the data clearly prove the great necessity for retaining the surface soil."

Literature cited at close of article.

Erosion in the Empire. Queensland Agr. Jour. 45(4):404-407. April 1, 1936.

Points out serious erosion in provinces of the British Empire, i.e., South Africa, Australia, Palestine, Canada. States that "now there are many remedies for the evils of erosion. The most simple and effective include preservation of the soil's natural cover of trees and herbage; in short, by wise and provident methods of agriculture. The most expensive and (in some cases) the most ineffectual are those involving the construction of huge dams and weirs with their highly paid staffs of hydro-technical engineers. This method, at any rate in the Union of South Africa, has been condemned by experts as tackling the problem at the wrong end. The service of the botanist and the forester, they say, should be called before that of the engineer and the stonemason; in other words, the work of control should commence in watershed areas. The soundest constructive criticism yet offered advocates the establishment of 'geo-botanical' stations."

The article includes an extract from an article by G.C. Watson which appeared in the Royal Empire Society Journal, October, 1935.

Frank, Bernard and Reid, R.L. Soil erosion in a mountain country. Amer. For. 42(7):310-312. illus. July 1936.

Discusses economic pressure on deforested and eroded lands of Cooke County, Tennessee, and offers suggestions for removal of population to good farming land or industrial communities and reestablishment of forest cover for control of erosion.

Lowdermilk, W.C. Forest influences and erosion control. Jour. Forestry 34(4): 391-394. April 1936.

Report of the chairman of the Committee on Forest Influences and Erosion Control of the Society of American Foresters, prepared for submittal at the Atlanta annual meeting, but not presented.

Oosthuizen, E.A. Soil erosion. Training banks for diverting flood waters. Farming So. Africa 11(120) 99-101. illus. March 1936.

Discusses control of valley depression erosion with silt trap and spillway, when water discharge is heavy. States that "to bring such waters under control if the valley on

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Erosion (cont'd)

Oosthuizen, E.A. (cont'd)

either side of the depression is wide enough to permit of water being regulated over it, a suitable silt trap with spillway should be provided in the centre of the depression, flanked on either side by suitable training banks. A controllable quantity of water is taken out on to the veld on either side and distributed by means of contour banks, while the rest of the water which is discharged over the silt trap is caught up and distributed by a similar system at a suitable place lower down. Three or four such systems may be necessary before the water is fully controlled." Figures show proper location of silt trap spillway and embankment.

Pendleton, R.L. Erosion of agricultural soils in the Philippines. Sugar News 16(5):237-248. illus. May 1935.

Describes serious erosion on the islands of Luzon, Negros, and Cebu, as aggravated by methods of cultivation suitable only for nearly flat lands which are not susceptible to erosion, and suggests various methods of contour or near-contour cultivation on sloping fields, with forest crops and permanent cover for control of erosion.

Sampson, H.C. Soil erosion in tropical Africa and problems connected with it. Rhodesia Agr. Jour. 33(3):197-205. March 1936.

Discusses land depletion in tropical Africa as caused by overgrazing by nomad tribes engaged in cattle industry and by over-tillage of light sandy soils. Describes also primitive methods of soil depletion and soil erosion control, and need for research and survey work on soils of Nigeria and surrounding territories.

Share cropping with old man erosion. Prog. Farmer, Tex. ed. 51(9):5. September 1936.

An editorial discussing results of an experiment carried out at the University of Georgia to determine loss of plant-food value by erosion of soil.

"A comparison was made between 115 pounds of soil washed from an acre of woodland in a year and 11,316 pounds (56 tons) eroded from the same area of typically bare soil in the same time...On the woodlands: only 3 pounds of plant food valued at 5 cents was lost. To replace them would require only 1/2 pound nitrate of soda, 1 pound superphosphate and 1 1/2 pounds muriate of potash. But to replace the plant food lost in the 56 tons of soil washed from the acre of bare ground, the farmer must spend \$8.75 for 450 pounds of nitrate of soda, \$12 for 1,100 pounds superphosphate and \$38.40 for 1,700 pounds muriate of potash.

Had these washed plant foods stayed in the soil, they would have been sufficient to make an acre of land yield 50 bushels of corn for four separate seasons. Just think of it. Erosion took out of the land in one year's time 200 bushels of corn."

Erosion (cont'd)

Spillers, A.R. A correlation of erosion with land use and slope in the Norris Dam watershed. Jour. Forestry 34(5): 492-497. illus. May 1936.

Discusses the effect of land use on erosion and includes charts showing (1) proportion of each slope class in each land use area, and (2) prevalence of marked erosion in each land use as affected by slope. States in conclusion that "about 16 per cent of the entire area of the Norris Dam watershed shows marked erosion. The proportion of eroded land on cleared areas is 3-1/2 times as great as it is upon the forest land. The degree of slope has a notable effect on both the extent and severity of erosion on cleared land; under forest cover the effect of slope is almost negligible." The author recommends forest cover as the best and most permanent erosion control agency upon slopes, and states that "artificial erosion work should continue where erosion has already advanced to a serious stage."

Wehrwein, G.S. Wind erosion legislation in Texas and Kansas. Jour. Land and Pub. Util. Econ. 12(3):312-313. August 1936.

Compares the Texas wind erosion Act, passed May 21, 1935, with the soil drifting law passed in Kansas in 1913 which has never been enforced. States that "perhaps the Texas law will be more workable since it follows the irrigation or drainage district principle. It provides means and machinery for financing erosion control instead of relying upon 'compulsions' to be enforced by an elected board of commissioners."

Grasses

Poehannee, J.F. The identification of grasses on the upper Snake river plains by their vegetative characters. Ecology 17(3): 479-490. July 1936.

"It is the purpose of this paper, to present a usable key to some important range grasses of the West based on vegetative characters."

Pasture Improvement

Charles, Tudor. A good income from run-down grassland. Kansas Farmer 74 . (17):5,17. illus. Aug. 15, 1936.

Discusses sheep raising in Kansas as an aid to pasture re-building.

Reforestation

LalMont, T.E. Acreage of land classes I and II in the watershed of the Susquehanna river in New York state and its relation to flood control. Cornell Univ. Col. Agr. Dept. Agr. Econ. and Farm Management. Farm Econ. no.96. June 1936, pages 2351-2355.

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Reforestation(cont'd)Lalont, T.E. (cont'd)

The author states that "reforestation" in this region "would double the area of non-pastured forest land and improve the forest conditions in present woodlots. Experimental work has not gone far enough to determine the exact effect of such reforestation on stream flow. The effect would be greater under some conditions than under others. With such inadequate data, only a rough guess can be made. Under the flood conditions this spring(1936) it seems possible that well developed forests on one-half the area of the Susquehanna watershed might have reduced the height of the waters above normal by as much as one-fourth or possibly more."

Run-off

Baxter, E.O. Rainfall intensity. Jour. Inst. Mun. & County Engrs. 62(10): 529-549. Nov.5, 1935.

Development of method of calculation to eliminate possible errors in runoff calculation; coordination of rainfall intensity duration curves.

Hinderlider, M.C. Rainfall and runoff in Colorado. Engin. News-Rec. 117(7): 243-247. illus. August 13, 1936.

Contains results of special investigations to accumulate hydrographic data of heavy rainfall and runoff in drainage basins in eastern Colorado, data to be used in designing future storage reservoirs for areas of unusual rainfall intensities.

Kittredge, J., jr. Forests and water aspects which have received little attention. Jour. Forestry 34(4):417-419. April 1936.

Suggests possibilities of increasing the water yield by forest management.

"Run-off or streamflow is the residual water after the losses by transpiration, interception, evaporation and deep seepage have been deducted from the precipitation. The rainfall and the deep seepage are little, if at all, influenced by the vegetation. There remains, therefore, the losses by transpiration and interception of the vegetation and evaporation from the soil, which vary with the kind, size and density of the vegetation and are therefore water losses which influence run-off and are subject to modification by forest management. The changes in these three factors with changes in the age, size, and density of forest cover will be followed."

Silt

Edwards, A.M. Silting of the O'Shaughnessy reservoir. Civil Engin. 6(8):511-512. illus. August 1936.

Tells some of the results of silt investigation and describes method of conducting the survey.

Soil Moisture

"Aerial wells" and soil moisture. Trop. Agr. 13(2): 34.
February 1936.

Discusses the dehydration property of soil, and describes experiments in collecting moisture by atmospheric dehydration. An aerial well was constructed by piling calcareous (non-marly) stones 5 to 10 cms. in diameter to a height of 2.5 m. into a rectangular pyramid over a 3 m. square concrete catchment platform. The stones were covered with concrete with holes top and bottom to permit circulation of air. A sunken reservoir was connected to the concrete platform. Making allowance for moisture collected in form of dew, it was found that this aerial well collected about 19 gallons of water from April to September in 1930, and in the less favorable year following, about nine gallons; maximum yield for one day was just over half a gallon. "That a similar process takes place to a lesser degree in the soil is indicated by the observation made at Montpellier that during three months of dry weather the top layers of the soil received moisture by dehydration of the air equivalent to 0.6 mm. of rain per day."

References at close of article.

Bauer, H.L. Moisture relations in the chaparral of the Santa Monica mountains, California. Ecological Monog. 6(3):409-454. illus. July 1936.

Introduction: "As the chief vegetative cover of the watersheds of southern California, chaparral is of great economic importance in that it lowers the loss of water through surface run-off, increases the flow of clear water in streams, and decreases the probability of serious floods and erosion.

The investigation herein reported is concerned primarily with the moisture relations in a representative area of Californian coastal chaparral. In the first part of the paper there is a somewhat detailed account of the structure and other ecological features of this community. Following this, the environmental complex of the association is analyzed with particular reference to soil moisture and the evaporating power of the air as they are related to growth and other features of the vegetation. Consideration is also given to precipitation, atmospheric moisture, and temperature, especially soil temperature. An attempt is made to evaluate the several factors and to correlate them with the activities of the vegetation."

Bocuf, F. and Novikoff, V. Cultures en cases de végétation et en cases lysimétriques au service botanique et agronomique de Tunisie. Compt. Rend Acad. Agr. France 22(12): 463-473. April 22, 1936.

Cultivation in vegetation and lysimeter cases at the Botanic and Agronomic Service of Tunis.

(continued on page 9)

Soil Moisture (cont'd)Bocuf, F. (cont'd)

"Fallow land and wheat rotation with fallow land allowed considerable infiltration of H₂O during the winter months and considerably less during the summer. The other crop rotations considerably cut down the H₂O infiltration. The cultivation of forage crops seems to be an excellent method of draining too humid soils if carried out at the proper time. Soil humidity rarely exceeds 30 per cent by wt. of the dry soil. Drainage waters remove large quantities of nitrate N. The nitrate N concn. of drainage waters is max. in autumn, diminishes by half and then in April picks up again. The P₂O₅ content of drainage waters runs about 0.2 mg. per l. Drainage waters contain on the av. about 12 mg. of K₂O per l. The other elements, SO₃, NaCl, SiO₂, CaO and MgO all show high concns. in the drainage waters with the max. in the autumn and the min. in the spring."- J.R. Adams. Chem. Absts. 30(14): 4976. July 20, 1936.

Soil Organic Matter

Cosby, S.W. Conservation of the organic soils in the Sacramento-San Joaquin Delta. Amer. Soil Survey Assn. Report 16: 116-117. State College, Pa. 1936.

It is stated that fire is considered one of the chief hazards to "a long, uninterrupted enjoyment of the present highly profitable agriculture" of this section. Cultural burning is a general practice among tenant farmers, and even many of the more intelligent owner-operators indulge in "this insidious procedure".

The author states that "from the standpoint of the Soil Conservation Service the delta region offers a novel problem, one not wholly within the field of erosion control, although severe wind erosion and soil loss occurs as a result of these fires.

"Methods of control need to be developed and new practices must be substituted for the cultural burning."

Jacot, A.P. Soil structure and soil biology. Ecology 17(3): 359-379. July 1936.

"Microarthropods are abundantly distributed throughout natural, vegetated soil to a depth of at least a foot. This animate layer varies in population with development of roots and rootlets. The lower limit of this layer is therefore indefinite, fraying out below as does the root layer. Soil erosion eliminates this porous, channeled layer with its makers. Resowing of this fauna is useless without precedence of a vegetative covering."

Terminology

Silvicultural conference, Dohra Dun, 1929. A glossary of technical terms for use in Indian forestry, adopted for official use by the Silvicultural conference, Dohra Dun, March 1929 and revised in 1935. Indian Forest Rec.(Silviculture)n.s.2(1):1-45 1936. Forestry terms in the United States: pp.44-45.

Terminology (cont'd)

Snyder, J.M. and Paschall, A.H. Committee on nomenclature, sub-committee on erosion terms. Tentative list of erosional terms. Amer. Soil Survey Assn. Report 16: 96-97. State College, Pa., 1936.

"This list is presented, not in final form, but for the action of the American Soil Survey Association at the 1936 meeting."

Terracing

Hodgkin, Carlyle. Farmers build terraces. 18 men each invest \$100 - operating cost averages \$30 per mile - proper equipment emphasized. Nebr. Farmer 78(12): 7, 21, 28. illus. June 6, 1936.

Describes terracing operations of farmers' cooperative soil improvement association in Gage county, Nebraska, including organization, cost, equipment used, and type of terraces used for moisture conservation and erosion control.

More flexible machines needed for terracing, says Shedd. Impl. and Tractor 51(13):8. June 27, 1936.

Summary of address by C.K. Shedd, U.S. Bureau of Agricultural Engineering at meeting of American Society of Agricultural Engineers, Estes Park, Colo., June 23, 1936.

Mr. Shedd discussed, particularly, the operation of corn planting and cultivating machinery on terraced land.

Also in Farm Impl. News 57(14):33. Jly. 2, 1936. under title: Implements on terraced lands.

Ward, G.H. Eight Virginia counties find that cooperative ownership makes terracing profitable. Ext. Serv. Rev. 7(7):105-111. July 1936.

Discusses general policies and activities of county terracing associations established in southside and Piedmont counties, Virginia, for the purpose of acquiring power-terracing equipment to build terraces to conserve land fertility. States that "the establishment of soil-conservation camps, which supply men to build terrace outlets, check dams, and other erosion-control devices without charge to the landowners, served as an effective inducement to numerous farmers to take part in the program to conserve the Nation's irreplaceable soil resources."

Wildlife Management

Ruhl, H.D. Farm-game management. Coordination with usual farm practice imperative. Amer. Wildlife 25(3):35, 42-44. illus. May-June 1936.

Discusses wildlife management from the agricultural point of view, and contains various recommendations for coordination of farm methods and game protection. States that "the elimination of grazing in farm woodlots would permit thou-

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Wildlife Management(cont'd)

Ruhl, H.D. (cont'd)

sands of acres to grow excellent wildlife cover where it is needed badly" and "the limitation of agricultural crop production and the retirement of submarginal land offers an encouraging opportunity for dedication of such land to wildlife production."

Bibliography at close of article.

Paper presented at North American Wildlife Conference, 1936.

RECENT LIBRARY ACCESSIONS

Brand, D.D. Notes to accompany a vegetation map of northwest Mexico. Univ. of N.M. Bull. whole no. 280. Biol. ser., v. 4, no. 4. 27pp. Albuquerque, N.M. University of New Mexico press, 1936. (456.1 B73)

This paper embodies a preliminary study of the vegetation of northwestern Mexico. The region designated as northwestern Mexico comprises the Mexican states of Sonora, Sinaloa, Chihuahua and Durango.

The preface states that "at the moment, this paper constitutes the most complete summary of the literature and knowledge concerning vegetation of the area involved."

Clarke, G.R. The study of the soil in the field. 143pp. Oxford, The Clarendon press, 1936. (56 C55)

Published under the auspices of the Imperial Forestry Institute, University of Oxford.

Emerson, F.V. Agricultural geology. rev. by John E. Smith... 377pp. New York, J. Wiley & sons inc. 1928; (400 Em3)
Contains bibliographies.

Fenneman, N.M. Physiography of western United States. 534pp. New York and London, McGraw-Hill Book Company, Inc., 1931. (331 F36P)

Gorrie, R.M. The use and misuse of land. 80pp. illus. Oxford, Clarendon press, 1935. (Oxford forestry memoirs, no. 19) (282 G68)

This report was prepared from material collected during a four months' tour of the United States. The author came to this country due to a research fellowship awarded him to study "The Correlation of Erosion Damage and Grazing in Forest Lands."

He states in his preface that "the report now presented deals in addition with the somewhat wider implications of the misuse and abuse of forest land and the need for a well-considered land policy to prevent this."

Chapter headings are as follows: Forestry as a factor in land management; Grazing and range management; Over grazing as a primary cause of soil erosion; Value of vegetational cover in stream-flow control; Forestry as a factor in farm and village economy; Farm erosion and its control; Other examples of the misuse of the land (including road erosion); Public and Private control of land.

Great Britain. Ministry of agriculture and fisheries.

Reports on the work of agricultural research institutes and on certain other agricultural investigations in the United Kingdom 1933-1934. 351pp. London, H.M. Stationery off., 1936. (10 G796)

I. - Research institute investigations. A. Soils, nutrition and plant physiology. 1. Rothamsted experimental station, pp.7-16; 2. Macaulay institute for soil research, Aberdeen, pp.17-26... B. Plant breeding, crop varieties and seeds, pp.27-56.

Grist, D.H. An outline of Malayan agriculture. 378pp. Kuala Lumpur, Department of agriculture, Straits settlements and Federated Malay states, 1936. (Straits settlements, Department of agriculture, Malayan planting manual no.2) (34.5 G88)

Chap. VIII. Soil treatment: pp.62-70.

The principal methods adopted in Malaya to prevent erosion are: (a) silt pits, terraces, bunds, and contour drains; (b) cover plants; (c) selective weeding. These methods are briefly discussed.

"On account of expense, terraces are rarely constructed in Malaya, except in conjunction with silt-pitting and bunding by means of which a terrace is gradually built up. Contour drainage is almost synonymous with silt-pitting and terracing. By means of such drains, the rate of flow of water is checked and any soil contained in the water is deposited."

Halcy, J. Charles Goodnight, cowman & plainsman. 485pp. Boston, M.Y. Houghton Mifflin company, 1936. (120 G622) maps.

King, H.W. Handbook of hydraulics for the solution of hydraulic problems. 2d.ed. 523pp. illus. New York and London, McGraw-Hill Book Company, inc., 1920. (290 K58)

League of nations. Report by the committee of experts on hydraulics and road questions in China. 213pp. [Geneva, 1936, (Series of League of nations Publications VIII. Transit. 1936. VIII.4) (289.9 L47)

At head of title: Official no.: C.91.H.34.1936.VIII Geneva, February 10th, 1936.

"The Committee has undertaken...the study of the crucial problem - namely, the improvement of the defence of the alluvial plain of China against floods...The problem lies not so much in the volume of water discharge from Chinese rivers as in the immense amount of solid matter, consisting mainly of loess, carried down by the flood waters of the tributaries, and of the main river on a quite exceptional scale, and particularly in the peculiar way in which the loess, attaining on some tributaries as much as 50 percent in weight, is carried along and deposited as a result of the changes in speed and the action on friable soil and earthworks of water so heavily laden with solid matter.

In the present report, the Committee has expressed opinions based on current hydraulic experience, singling out those regarding which reservations must be made so long as no final conclusions can be drawn from the study of the deposit of loess by Chinese rivers."

Leopold, Aldo. Game management. 481pp. illus. New York, London, C. Scribner's sons, 1936. (412.9 L55)
Bibliography: p.427-449.

Longobardi, Cesare. Land-reclamation in Italy. Rural revival in the building of a nation. Translated from the Italian by Olivia Rossetti Agresti. 243pp. illus. London, P.S. King & son, ltd. 1936. (54 L86)

"The present volume is neither a philosophical essay nor a political treatise. It is merely description of integral land-reclamation as carried out in Italy. It is written in reply to enquiries constantly made.

"The contents of this book fall into two parts: (a) to the first, of general interest, belong the speeches of the Duce, showing the full import of the historic period in which integral land-reclamation is framed; and the spirit which animates it, making success possible, and Chapters I, II, and III giving a general sketch of the work; (b) the other chapters describe the organization of integral land reclamation, the results obtained and the theoretic basis of the principal problems dealt with, and an appendix gives the legislative texts."

Lyon, T.L. The nature and properties of soils; a college text of edaphology. rev. ed. 428pp. New York, The Macmillan company, 1936. (56 L99N)

Matthews, D.M. Management of American forests. 495pp. New York and London, McGraw-Hill book company, inc., 1935. (99.55 M43)
Bibliography: p.483-483.

Milne, G. A provisional soil map of East Africa (Kenya, Uganda, Tanganyika and Zanzibar) with explanatory memoir. 34pp. London, 1936. (East African agricultural research station, Amani, Tanganyika territory. Amani memoirs)
"References": p.33-34. (56.27 M63)

Plotze, Kurt. Der einfluss der düngung auf den pflanzen-bestand des dauergrünlandes. 30pp. Berlin, Verlagsgesellschaft für ackerbau, m.b.h., 1935. (57.7. P72)

"Quite logically, the increasing acreage under grass almost automatically compels us to inquire concerning methods of grass-land management. The author of this book discusses facts of interest to farmers, investigators, and teachers.

"The book was written from the point of view of the needs of German agriculture. The author notes in his preface that Germany is compelled to increase her resources of forage crops in order that it may be less dependent on imports of certain agricultural commodities. The subjects which he deals with, in a rather popular way, consist of a general statement, the influence of lime on the botanical composition of permanent meadows, the influence of farmyard manure, the influence of potassium and phosphorus fertilization, the influence of kainit and calcium cyanamid for the control of weeds, and the influence of nitrogen fertilizer." Quoted from a review in Soil Science 41(2):154. February, 1936.

A list of references consists of 131 titles.

Ratcliffe, F.H. Soil drift in the arid pastoral areas of South Australia. Council for Sci. and Indus. Research. Pam. no.64. 84pp. Melbourne, 1936. (514 Au72P)

Some of the topics discussed are: principal vegetative types; causes and progress of drift; water erosion; pastoral policy and land administration; erosion problems in other countries; the possibilities of recovery.

Appendix I. - The rabbit in the arid pastoral country, pp.72-84.

References to literature: p.71.

Stapledon, R.G. The land, now and tomorrow. 336pp. London, Faber & Faber, Ltd., 1935,

Bibliography: p.316-325. (282 St2)

White, C.L. and Renner, G.T. ...Geography, an introduction to human ecology. 790pp. New York, D.Appleton-Century company, 1936, (278 W582)

Bibliographical foot-notes.

BOOKS AND PAMPHLETS

I. State Publications

Kansas

Hallsted, A.L. and Mathews, O.R. Soil moisture and winter wheat with suggestions on abandonment.

Kans. Agr. Exp. Sta. Bull.273. 46pp.tables. Manhattan 1936. (100 K13S1b1)

Missouri

Miller, M.F. Cropping systems in relation to erosion control. Mo.Agr.Exp.Sta. Bull.366. 36pp., illus. Columbia, Mo., 1936. (100 M3931b1)

A broad schematic plan indicating the general relationships between cropping systems and the grade and slope of the land: pp.26-27.

Westveld, R.H. Tree planting for erosion control. Mo. Univ. Col. agr. Agr.ext.serv. Circ. 345. 7pp., illus. Columbia, 1936. (275.29 M69C)

Discusses selection of species and class of stock; site preparation; and protection.

Novada

Hardman, George and Reil, O.E. The relationship between tree-growth and stream runoff in the Truckee river basin, California-Novada. Nov.Agr.Exp.Sta. Bull.141. 38pp. illus. Reno, 1936. (100 N41S)

Precipitation has a similar effect on both tree-growth and stream run-off, which can be estimated from tree-growth. Tree-growth curves show constantly recurring periods of varying length when the precipitation and runoff may be either far above or below the average.

New Mexico

Wilson, C.P., Neale, P.E., Parker, K.W. and Watenpaugh, H.N.
Soil and rainfall conservation in New Mexico. N.M. Agr. Exp.
Sta. Bull. 238. 45pp., illus. State College, N.M., 1936.
(100 N46S1b1)

Literature cited: p.45.

Appendix: pp.37-44. Precipitation records at State College,
N.M.

Summary: "Data that have been accumulated indicate that the problem of soil and rainfall conservation in New Mexico is, in some respects, more difficult of solution than in a majority of the other States. It is evident that as elsewhere, reseeding, by the use of native or introduced plants, will be one of the most practical means of reducing erosion...

"As a rule, native species have been found to be better adapted for reseeding in this State than introduced plants."

Ohio

Salter, R.M., Lewis, R.D., and Slipper, J.A. Our heritage - the soil. Ohio. State univ. Agr. ext. serv. Bull.175. 20pp. Columbus, 1936. (275.29 Oh521b1)

Reports examination of some of the evidence in an effort to determine if there is any basis for believing that the farm lands in Ohio are actually being despoiled.

Discusses factors involved in soil deterioration and improvement, also standards established to evaluate these factors.

Gives data showing method of calculating annual soil productivity balance as applied to the state of Ohio (based on the situation in 1929)

Oklahoma

Oklahoma. Agricultural and mechanical college. Extension service. A soil resources program for Oklahoma. Okla. A. and M. col. Ext. serv. Circ 355. 7pp. Stillwater, 1936 (275.29 Ok41C)

To improve soil resources, the work in Oklahoma has been divided into these general fields:

1. Engineering work, to protect soils and conserve moisture, such as terracing, contouring, protecting terrace outlets and stopping gullies.
2. Restoring or adding minerals and other plant foods, such as lime, phosphates, crop residues and manure.
3. Understandings between landlords and tenants as to what contribution each should make toward adding minerals, growing soil-improving crops and keeping livestock, all for the purpose of soil improvement.
4. Establishing cropping systems which include rotations with legumes, fallowing, establishment of pastures and other means of saving and improving soil.
5. Use of livestock to whatever extent this is the most profitable long-time means of marketing the feed crops which will result from farming based on a Soil resources program.
6. Balancing the farming operations with a live-at-home program and other plans which make the best use of farm labor and soil resources, so that the farm may be able to pay for protecting and improving the soil.

Virginia

Hutcheson, J.R. Annual report of extension work in agriculture and home economics in Virginia. Va. A. and M. col. Ext.div. Bull.141. 56pp., illus. Blacksburg, 1936 (275.29 V81B)

Soil conservation program, pp.3-12.

"Soil conservation has been a definite part of the extension program since the first county agent was appointed, and a result of the use of terraces, winter cover crops and improved pastures, thousands of acres have been improved through proper crop rotation and the planting of legumes.

"During the last two years the soil conservation program in this state has received great impetus through the enactment of federal legislation establishing the Tennessee Valley Authority, the Resettlement Administration and the Soil Conservation Service."

Washington

Grunder, M.S. Green manure or cover crops in western Washington. Wash.State Col. Ext. serv. Ext. bull. 223. 4pp. Pullman, 1936. (275.29 W27P₁b₁)

Indicates beneficial effects of green manure and suggests management practices.

II. U.S. Government Publications

Hitchcock, A.S. The genera of grasses of the United States, with special reference to the economic species. U.S.Dept. Agr. Bull.772. 302pp., illus. 1936. (1 Ag84B)

A revision of the bulletin first issued in March 1920. Revision by Agnes Chase.

"The present bulletin describes all the genera of grasses that include species that are native, have been introduced, or are cultivated in the United States."

U.S.Dept. of agriculture. The western range... 619pp. Washington, U.S.Govt.print.off., 1936. (74th Cong., 2d sess. Sen. Doc.199) (1Ag86Mc)

A report on the range problem of the western United States prepared by the Forest Service in response to Senate Resolution no.289 (74th Cong., 2d sess.)

Literature cited: pp.557-566.

Southern forest ranges: pp.567-580.

Alaska: pp.581-598.

Range types: p.599.

Range species referred to in the report: pp.600-603.

U.S.Soil conservation service. A standard state soil conservation district law. Prepared at the suggestion of representatives of a number of states. 64pp. Washington, U.S.Govt.print.off., 1936. (1.6So5ST)

A standard form of State soil conservation districts law worked out by the Land Policy Committee of the Department of Agriculture, in cooperation with the Soil Conservation Service

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and the Office of the Solicitor, to serve as the recommendation of the Department regarding the nature of appropriate legislation in this field.

"The standard act here made public will enable a comprehensive program to be instituted for the control of soil erosion, and should not conflict with the operation of State plans submitted under section 7 of the Soil Conservation and Domestic Allotment Act."

FINIS

